SPRING 2000
VOLUME 37
NO. 2
NATURAL HISTORY MUSEUM
OF LOS ANGELES COUNTY

TERRA

Pride and honor in southern California

Photographs from the collections

From the museum's historical photograph collections

Pride of Home and Honor in Work

JANET R. FIREMAN

At the beginning of the twenty-first century, pride of home and honor in work are long-standing values in Los Angeles. In a special exhibition from the Natural History Museum's Seaver Center for Western History Research, photographs dating back nearly 150 years reflect these values—the hopes, dreams, and ideals held dear by southern Californians

PERUSING SEVERAL THOUSAND HISTORICAL PHOTOGRAPHS OF LOS ANGELES, looking for images of people arrayed in front of their houses and work places, you cannot help but notice that times have changed. For one thing, there seems to have been a lot more outside open space around houses in the past. There was more room in those days. And peering at the old photos, a certain impression lingers that there was more time then, that life was not so rushed. Why is that? Is it the stopped motion caught by the camera lens? Or is it nostalgia for things remembered, or for things we never knew? Are these the reasons that there seems to be a lost world—or another world entirely—on the other side of the historical camera's eye on L.A.?

Looking at people posed in front of their shops, the change over time is also inescapable. The facades and front windows of retail businesses were a lot busier in the past than they are today: storefronts were more cluttered, with more merchandise, more signs, more architecture. We are accustomed to a cleaner, more streamlined corporate look, to the spare sensibility of contemporary window display. Still, even if the aesthetic varies widely from today's taste and standards, what we see in these old photos carries a certain charm. The sensation conveyed is partly picturesque and quaint, partly lofty and elegant, and partly industrious and dynamic. Scenes of the city transport the viewer to places of wonder, and to some places that now exist only because they have been preserved in the images on these historical photographs.

There is a different look to the past, no question about it. It is easy to discern but hard to define. Even the particularly distinctive look of Los Angeles, with familiar palm trees, light and shadow, eclectic architecture, diverse ethnicities, and streetscapes occupied by movie crews and traffic—even all these everyday features take on a different aspect when viewed from the distance of time.

And yet, in the southern California scene and elsewhere, the more things change, the more some things stay the same. If you look at current family photographs or those snaps made at the dry cleaner's or in the employees' back room at the mall, you see a general similarity to the

continued on page 9

FUJIOKA FAMILY

Fred Jiro Fujioka (1887–1968) immigrated from Japan, arriving in Los Angeles in 1903 with the intention of going to school here. After successful studies in automotive engineering, he entered the automobile repair business in 1911. As Los Angeles became the car-culture capital of the nation, Mr. Fujioka played a significant role: he owned and operated a North San Pedro Street business, the F & K Garage Company, which was the largest Japanese-owned garage in the United States. Active in Japanese civic affairs as well as broad-based community charities, Mr. Fujioka also sold cars and invested in the manufacture of a model that he designed.

The Fujioka family photograph—showing male members book-ending the females and car in a stance as firmly planted as the deodar trees behind them—is part of the Seaver Center's Japanese American Collection, an assemblage consisting of copy prints of work by various photographers who documented the Japanese community in southern California. For the most part, the collection was assembled by History Department staff members.

COVER: Peter Stone's Water Filter and Cooler Company, located at 219 West 4th Street; photographed in 1894 by C.C. Pierce.

PRODUCCIONES JOSÉ BOHR

German-born director, actor, producer, writer, composer, and film editor José "Ché" Bohr lived most of his life in Chile. But like so many other people involved in the motion picture industry abroad, Mr. Bohr heeded the siren song of Hollywood, the movie capital of the world. From 1928 to 1931, he made nine motion pictures in the U.S. and followed this with a 6-year and fourteen-movie run in Mexico. His *Luponini (El terror de Chicago),* made in Mexico and released in 1935, is considered one of the one hundred best films of Mexican cinema.

Mr. Bohr worked in Chile before and after his stints in Hollywood and Mexico, making more than twenty films there. But Producciones José Bohr posed for this still on the streets of Los Angeles, perhaps while making *Hollywood, cuidad de ensueños* (Hollywood, City of Fantasies) in 1931.

The photograph of the stylish group is from the La Opinión Collection, a 75-linear-foot-long archive of glass-plate and acetate negatives. *La Opinión* is the leading Spanish-language daily newspaper in the United States and has been published continuously in Los Angeles since September 26, 1926; negatives in the Seaver Center's collection date from the paper's founding to the 1950s.

WEBER'S MAYFLOWER DOUGHNUTS

Open "24/7" in the midst of the bustling theater and commercial district, the Mayflower Shop required a large staff to serve its clientele. The scent of fresh doughnuts and coffee ("Good to the last drop" according to the neon under the coffee cup sign), reasonable prices, and "air-cooled" comfort would have been enticing; the staff's friendly manner must have had something to do with the shop's fortunes as well. Another contributing factor could have been the patchwork-attired jesters—one holding a doughnut, the other a hole—on the sprightly placard displayed in front of the employees in this photograph. In the spirit of good humored advice from people devoted to their work, it reads, "As you ramble on thru Life Brother, Whatever be your Goal, Keep your Eye upon the Doughnut And not upon the Hole."

The Mayflower shop was located at 761 South Broadway on the ground floor of the elegant Merritt building. Today, the Pan-American Travel System offices occupy the spot.

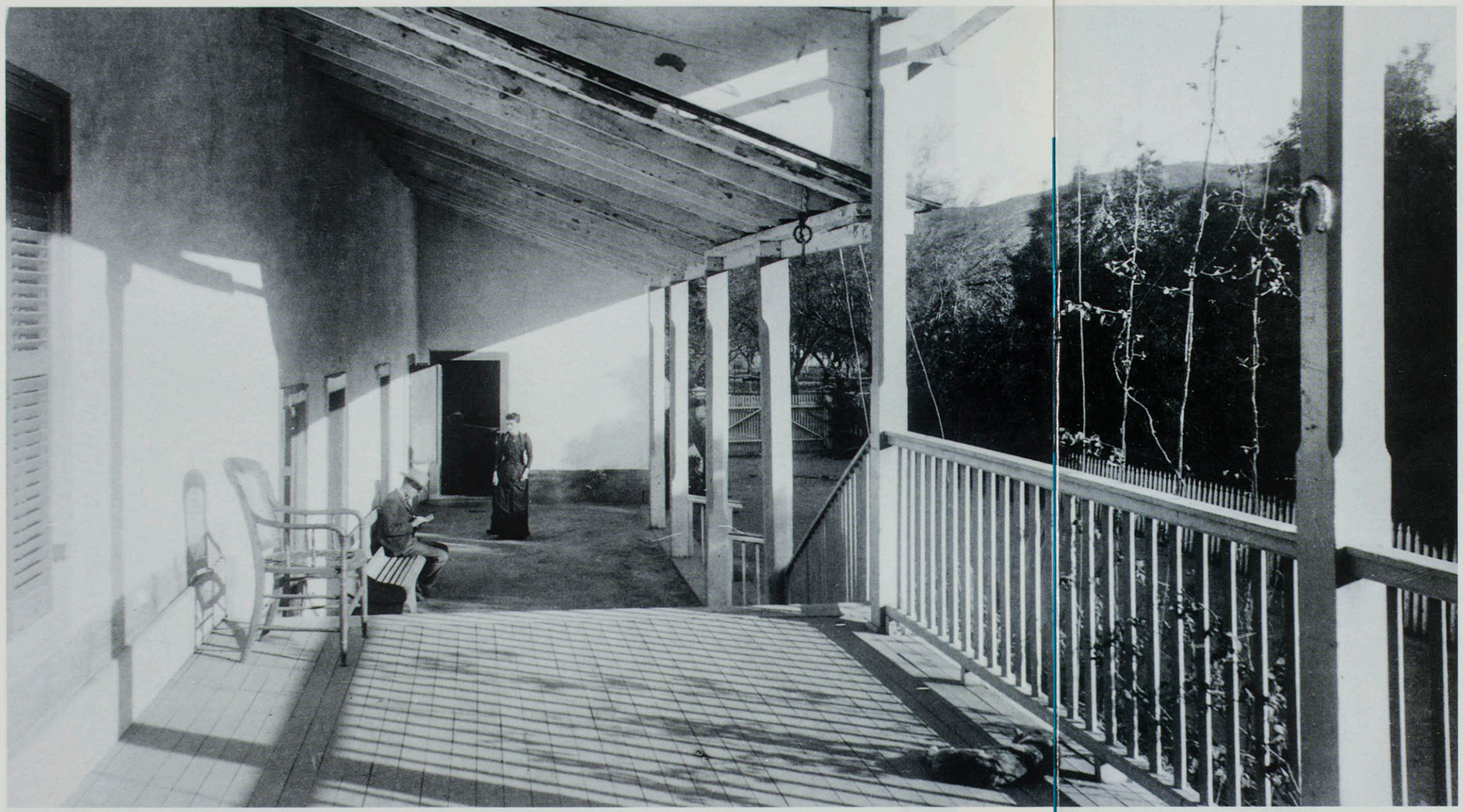
The photograph is from the Al Greene Collection, one of the Seaver Center's prime sources for views of Los Angeles and southern California. Greene was a commercial photographer who also bought and copied negatives from other photographers. The collection spans the years from 1880 to 1950 and includes views of northern California and some other states. Researchers registered in the Seaver Reading Room access the collection by looking through binders containing prints that are organized by geographic subject.

PEOPLES STORE

Founded by Asher Hamburger in 1881 and operated by him and three sons (Solomon, Moses, and David), the Peoples Store was originally located on North Main Street in what was then the Los Angeles business hub. With increasing prosperity of the dry goods and ladies' furnishings business, the store moved into larger quarters at 124–145 North Spring Street, where this photograph was taken circa 1890. Further success resulted in more expansion and incorporation as A. Hamburger and Sons in 1901.

Although Asher Hamburger died in 1903, the store continued to thrive in its new home, a huge structure built on Eighth Street between Broadway and Hill. Known simply as Hamburger's, it was one of the largest department stores in the west and proved to be ripe for a 1920s version of corporate takeover: in 1923, David May, who had opened his first store in Leadville, Colorado, in 1877 and later established branches in Denver, St. Louis, and Cleveland, bought out Hamburgers and renamed it The May Company. The Los Angeles flagship store is now closed, although the building still stands, and in 1993 May Company and Robinson's were consolidated to create Robinsons-May.

The photograph of the old Peoples Store is part of a large collection in the Seaver Center assembled by Sam Behrendt, a Los Angeles collector of historical materials whose 1941 estate donation enriched the museum's California holdings on a number of subjects.



VENTURA COUNTY'S RANCHO CAMULOS

A shower of sunlight falling across the *corredor*, or porch, at Rancho Camulos creates a dramatic geometry of shade patterns in this 1880s photograph. The Del Valle family home from the time its construction began in 1853 until the 1920s, Camulos is located on what had been the Rancho San Francisco in Ventura County, granted to Antonio del Valle in 1833. Ygnacio del Valle, son of the original grantee, occupied the ranch after his father's death in 1841 and embarked on the long-term development of orchards, gardens, and the complex of buildings.

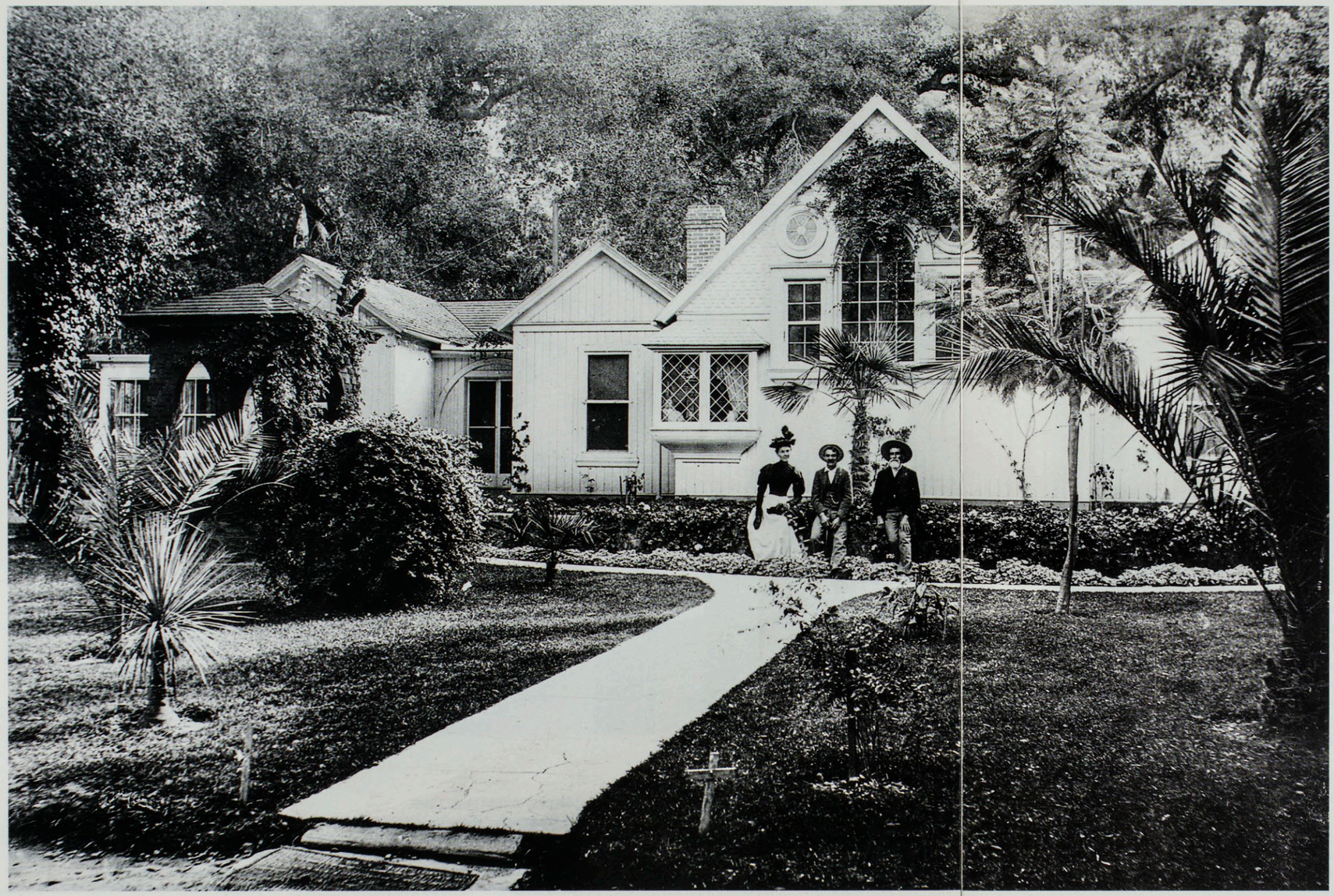
Rancho Camulos, which is 30 miles east of Ventura, near Piru on State Route 126, still stands as a quintessential example of the southern California adobe vernacular, although it sustained serious damage in the 1994 Northridge Earthquake. Because of the architectural significance of the structures, and also because of the association with Helen Hunt Jackson's best-selling 1884 novel, *Ramona*, Rancho Camulos has been listed on the National Register of Historic Places. Jackson had visited the Del Valle family and—impressed by their home and lifestyle—based descriptions of fictional events and locations on what she saw at Camulos and environs. Wide popularity of the book fostered a "Ramona myth," and Camulos became one of several shrines to a romanticized version of southern California history.

MOTT-SEPULVEDA FAMILY TREE

The proud-looking gentleman with the white beard and little black hat is Thomas D. Mott (1829–1904), a New Yorker who came west during the Gold Rush. He struck it rich as a successful businessman in Los Angeles—and by marrying into one of the most prominent Californio families. Mrs. Mott, seated next to her husband, was the daughter of ranchero José Sepulveda, and their relatives included other leading families of Spanish and Mexican California, such as the Avilas and De la Guerras.

Mr. Mott, a man of varied interests and accomplishments, was involved in bringing the Southern Pacific Railroad to Los Angeles; he was also the first county clerk in Los Angeles, an organizer of the Chamber of Commerce, and a member of the legislature. Wielding a good deal of political clout and prosperous beyond his expectations, it is no wonder that he assumed a patriarchal pose beside the initial-carved tree in his front yard.

At the corner of Seventh and Main, on the spot where this photograph was taken around 1890, today there is an empty storefront in a commercial building. Numbers on the photograph, which is from the Del Valle Collection, refer to an identification key that was written on the back of the photo by the donor.



MADAME MODJESKA'S HOME

America's innovative and most distinguished Shakespearean actress of the 1880s and 1890s was Helena Modjeska (1840–1909), who immigrated to southern California in 1876 with her husband, Karol Bozenta Chlapowski, as members of a short-lived Polish agricultural colony in Anaheim. Falling in love with the Santa Ana Mountains, the couple bought a little house on a piece of land in Santiago Canyon in 1883. The existing house on the property had two small gables (on the left side of the photograph); when the house was enlarged considerably beginning in 1888 under the long-distance direction of New York architect Stanford White, the pattern was repeated on the opposite side and connected with a tall central gable.

Madame Modjeska and Count Bozenta called their home Forest of Arden, after the enchanted forest setting for *As You Like It.* From Arden, Madame Modjeska conquered the American and British stages, playing Shakespeare and Ibsen. She and the count used the house for vacations and as a retreat from 1888 until 1906, when they sold the property and took up residence in Tustin and then Newport Beach.

Today Arden is a National Historic Landmark, and the immediate surrounding canyon has been renamed Modjeska Canyon. The house and fourteen acres of parkland, including a live oak grove, palms, English yews, white lilacs, and redwoods, belong to the County of Orange and are open for public visits by reservation. The Seaver Center image is part of the Al Greene collection.

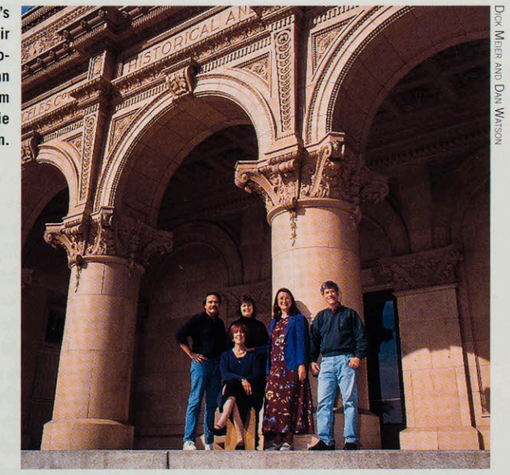
continued from page 2

vintage photos. What you see is people with attitude—positive attitudes of pride and honor—standing still for a moment for the camera and in that moment eternalized by it. Angelenos' pride in their origins and how far they have come since they left their homelands near or far, and the pride in the lives they have built in southern California, are on view in photographs old and new. Also clearly visible is the honor that southern Californians display in their employment in this region that has hosted successive business booms for more than a century.

These views through the window to the Los Angeles past is what History Department staff found when we combed the 300,000-image photograph collection of the Seaver Center for Western History Research. A first step in the selection process for the current *Pride and Honor* exhibition involved a search-and-photocopy operation that spanned weeks of intermittent labors and required the examination of thousands of prints and negatives. Working cooperatively on the project but fanning out individually to cover as much territory in the collection as possible, each of the five historians followed a procedure that we had agreed upon at the outset: when a promising image turned up, we photocopied it, recorded pertinent identification information, and added the copy to a growing stack of possibilities.

The next steps were perhaps the most difficult: sorting and re-sorting several hundred candidate photographs and having to eliminate most of them. At the end of this heart-wrenching exercise, which was dictated by the reality of the amount of space available for the exhibition, a selection of thirty-one photos was finalized. Then the museum photographers made copy negatives and the fresh prints that appear in the exhibition; some of those images are reproduced on these pages.

Dr. Janet R. Fireman, who has been with the Natural History Museum for almost a quarter of a century, is curator and chief of history. She has participated in the conception and production of several dozen nationally touring and local exhibitions and, most recently, oversaw the content development for the permanent installation at the Golden State Museum in Sacramento. Her work as lead curator of the Pride and Honor *exhibition team benefitted from her personal and professional interest in California's impact on the nation and the world and the influence of California-based culture on the United States as a whole.*



The Natural History Museum's historians step outside their place of business to be photographed. Janet Fireman *(seated),* with *(from left)* Tom Sitton, Beth Werling, Jackie Morin, and John Cahoon.

DICK MEIER AND DAN WATSON

Sky River

Robert Michael Pyle

The annual mass migration of the monarch butterfly is one of the most extraordinary of natural phenomena, and myths about the monarchs' travels abound. In late summer 1996, lepidopterist Robert Michael Pyle set out to separate fact from fiction by following the wanderers from their northernmost breeding grounds in British Columbia to an overwintering site in central Mexico

NO ORANGE SHOWS IN THE TALL FIRS. In the predawn pallor, the bark is cloaked with a gray nap. The boughs look swollen, as if hung with Spanish moss. The gray burden is butterflies, their wings folded to show only the dull undersides. Then the sky breaks open to the east and tentative sunbeams fondle the higher boughs. A rustle begins, almost too soft to hear, as the temperature rises. A wing spreads, then another. The orange appears. A daub, then a streak; slowly spreading at first, a cool fire in the canopy becomes a conflagration in minutes as a million butterflies lift off. Now orange fills the forest, eclipsing the green beneath the high blue Mexican sky.

The monarch butterflies have hung here, in the mountains of Michoacán, since late fall. Mostly torpid, they have gone out only to soar on hot days when a shadow alarmed them, to drink at the creekside below the forests, and (for those that didn't fatten enough for the winter) to seek nectar among sparse salvias and senecios. Now it is early spring, and the butterflies' sex urge has awakened. Their compasses, formerly set for south, have been recalibrated. Today, after dropping out of the trees, some will not return to the clusters as the afternoon cools. Tomorrow more will depart. The freezes are past, and milkweed is sprouting in the North. It is time to go.

Now, its broad tawny vanes expanded to the sun and shivering to warm up even faster, the first monarch of many millions drops over the edge of the scarp below its high-country wintering place. Others follow. Soon the valley that funneled the monarchs up the montane corridors last autumn will pour their molten flow back into the lowlands. Exodus becomes diaspora, as emigration turns toward reinhabitation.

In October these milkweed butterflies comprised a torrent flowing southward, sometimes braiding into many narrower streams, sometimes congealing into a broad front constantly reinforced by tributaries. At night they wrapped themselves in trees, previews of the dense masses they would make in their winter woods farther south. They roosted in sumacs, blending into reds and purples deeper than their own dusk colors. They roosted in locusts, clinging in the wind as tenaciously as the trees' own clusters of pods, and in basswood, elm, and oak. They roosted in osage orange, mulberry, and pecan; in willow, cottonwood, and mesquite, each night growing heavier in number. But now, drifting north, there is little togetherness; it's every monarch for itself. All the males want to do is travel and find females. But most of the females will have mated before leaving the mountain or shortly into their journey; all they want to do now is find milkweed plants—the sole acceptable food for their offspring—and stay on the move.

Females seeking milkweed, males seeking females, both seeking nectar, the monarchs fly north until they die along the way. Their wings, those translucent tissues that have carried them two hundred or two thousand miles already, lose their scales and their color. They grow tattered, torn, bush-ripped, bird-struck. The wings still work for flying, if not so fast, efficiently, or high. But a female no longer needs to fly high, to soar and glide great distances. Her only need now is to skip and hop and flutter from field to roadside, bush to herb, to palp the air and the green spring for the next scrap of milkweed on which to deposit her precious eggs. Day after day she drops her load until she has laid some five hundred eggs or more. Or until a spring storm or an automobile or a recently molted mantis lays her to rest. Or until, her abdomen grown greasy with the thinness of its walls, her wings pale rags, she simply wears out.

A few monarchs may reach the state, the county, the meadow where they began, but this must be very rare. The great mass of last fall's emigrants scatter their last scales to the wind somewhere far short of their birthplaces. It will be up to their offspring to carry on.

Even before the mountain forests deep in Mexico give up their monarchs, a similar turnout takes place along the California coast, Alta and Baja. As the offspring of the Mexican emigrants emerge, poised to flow north across the south and center of the continent, those of the West Coast overwinterers are dispersing as well, all up and down the Coast Ranges, California's Central Valley, and the Sierra Nevada foothills.

This is how the sky river floods North America each spring. Wave upon wave of orange insects, whose grandparents ebbed out of the summer range the previous autumn, now pour in. Through each declivity in the landscape—arroyo, ravine, gully, valley, canyon, swale—they surge.

© 2000 Art Wolfe/Art Wolfe, Inc.

Eddies occur as the sky river gives off another generation and then another, each of which will live just weeks. Then, having covered three countries to the extent of the milkweed, the last riffles probe still farther, seeking an ever broader beachhead for the species. So by September, in years when conditions are right, the continent once again brims with butterflies inclined to leave: the new emigrants, three or four generations removed from those of last fall. Then the current turns back again, to become not a meandering, chaotic mob like their northbound ancestors but a single-minded, gathering onslaught on the southern reaches.

So the sky river runs two ways, north with the spring, south with the fall. First the millions of individual rivulets flow south from the continental borders to the core flyways, and on down to the great central pools. Then, from those winter reservoirs, the flow reverses to refill the hinterlands. This is a current that changes direction with the season, a tide with a turnaround time of six months instead of six hours. Or a breath, the lungs of the land respiring butterflies out into the far capillaries of the continent, then sucking them back again, a great sigh, in by winter, out by summer.

Pick your metaphor as you will. To the monarchs it is just what they do. No matter to them that their regular, stylized shifts of population comprise the grandest butterfly spectacle on the planet. It is in the nature of all other animals but humans to carry on heedless of any glamour, show, or drama they might possess. We are not so oblivious. Confronted with thousands or millions of big, flapping, soaring, gliding, sucking creatures clearly going somewhere, we stand in awe. We want to know, Where have they come from? Where are they going? How? We want to know what's going on here.

"A rustle begins, almost too soft to hear, as the temperature rises. A wing spreads, then another. The orange appears. A daub, then a streak; slowly spreading at first, a cool fire in the canopy becomes a conflagration in minutes as a million butterflies lift off."

"SO, JUST HOW DO YOU FOLLOW BUTTERFLIES?" I was asked that question again and again when I mentioned my plans to follow monarchs. It surprised me a little. But then, I had to remind myself, the people who asked had not been following butterflies for most of their lives, as I had.

But had I, really? It's true, I'd been chasing butterflies for nearly 40 years. But most of the pursuits had been decided within a few yards, or at most a field or two. Lepidopterists over the age of twelve

Ruler of a Vast Domain

ALMOST ENDLESS ROUGH DUSTY roads brought me to Naf, Idaho, as big as its name and as isolated as anything. These economical names grown straight out of the sage (Jex, Naf) and the names transplanted to this part of the country from immigrant pasts (Albion, Elba, Malta) got me thinking about the monarch's names. God knows I had miles to do it in. Its English monikers have not been many. Artist-naturalist John Abbot, whose exquisite painting in the extremely rare and valuable 1758 folio of his work is perhaps the species' earliest color portrait, called it "The Large Orange-and-Black Butterfly." "Milkweed butterfly" and "wanderer" have been employed now and then, the former especially in England. But for most of its written history, "monarch" has been used with remarkable consistency. Books often recount that the present name has something to do with the colors of William, Prince of Orange, stadtholder of Holland, and later king of England. Indeed, Don Davis, a wonderfully knowledgeable monarch aficionado in Toronto, told me that his late grandfather knew these butterflies as "King Billies." But the actual coinage of the term "monarch" may be attributed to Samuel Scudder, one of the greatest of the late-nineteenth-century lepidopterists. In "English Names for Butterflies," a paper published in *Psyche* in 1877, Scudder wrote, "9. Danaus plexippus. The Monarch," and explained it thus: "D'Urban calls it the Storm Fritillary, but it is not a Fritillary. Gosse called it the Archippus, but this is not its proper name. It is one of the largest of our butterflies, and rules a vast domain." Next he named the viceroy.

The species' trail of scientific names has been much more tortured. The earliest known monarch specimen was collected in Maryland between 1698 and 1709 for the English naturalist James Petiver, who mounted it between sheets of mica. Thus preserved, it may still be found in the British Museum of Natural History, labelled in Petiver's hand and described in his catalogue with a long, prebinomial Latin phrase. The founder of modern taxonomy, Carolus Linnaeus, named the species *Papilio plexippus* in 1758. One Krzysztof Kluk erected the genus *Danaus* in an 1802 Polish paper. Through a chaotic nomenclatorial history that saw dozens of alternatives erected and torn down, *Danaus plexippus* prevailed and reigns today.

Butterfly names were frequently drawn from Greek and Roman history and mythology, usually with little relevance. Plexippus was the spiteful uncle of Meleager, lover of Atalanta. Danaus, who was the great-great-grandson of Zeus and Io, ordered his fifty daughters (the Danaids) to marry and then kill their fifty cousins; forty-nine complied and were condemned perpetually to carry water in leaky jugs in the lower world.

I prefer to associate the name with Danae, the great-great-granddaughter of Danaus. Her father, Acrisius, fearing a Delphic prophecy that her son would kill him, locked Danae in a brass-bound hole. But Zeus came to her in a shower of gold and left her with child. The son born by Danae was Perseus, who would be the great-grandfather of Hercules and who killed not only Medusa but of course, eventually, Acrisius. Gustav Klimpt painted a beautiful pale nude portrait of Danae, Zeus's shower of gold falling about her prolific copper hair like butterfly scales, and that is the image of her that I carry.

Imagining monarchs among the golden aspens of southwestern Idaho, I thought of Danae. And it is possible that Kluk did, too, when he named the genus. Latin grammar (and now the International Code of Zoological Nomenclature) prescribes that the gender of the genus and species agree. To observe that rule, the author would have been obliged to alter the genus name to conform with that of the type species, *plexippus,* by giving it the masculine suffix. So it may be that the monarch's genus was named for Danae rather than Danaus after all.—*Robert Michael Pyle, in* Chasing Monarchs: Migrating with the Butterflies of Passage

Illustration of the life cycle of the monarch. From an 1833 book on butterflies and moths of eastern America, by Jean Alphonse Boisduval. Research Library, Natural History Museum of Los Angeles County, gift of Lloyd M. Martin.

seldom outright chase a butterfly. Sure, occasionally they'll follow one over a meadow or across a stream, and with luck they might even catch it, but once a butterfly decides to go, it's gone.

In recent years I've done a lot more watching than catching. I've often observed a nectaring or courting butterfly for half an hour or more. Not waving a net, I present a less threatening vision, and I'm often able to move along with the butterfly and keep on its good side. The careful stalk, sometimes still, sometimes liquidly in motion, over and over, is the stock in trade of all hunters. That certainly applies to those who hunt butterflies, for there never was a more now-you-see-it, now-you-don't kind of prey.

To people's questions, I replied: I'll find a monarch, I will watch it. If it flies, I'll follow it as far as I can. When I lose it, I'll take its vanishing bearing—the direction in which it disappears. Then I will quarter the countryside, by foot and by road, until I find the next suitable habitat along that bearing, and do it again. Monarch by monarch, shouldn't I be able to follow their trend?

Friends also wondered whether I would use high technology. Will you strap microtransmitters on the monarchs? they'd ask in jest. In fact, such devices do now exist for honeybees and ground beetles. In Alberta, tiny dipole antennae thinner than a hair, attached to minute microwave-echoing diodes, have been affixed to parnassian butterflies and tent caterpillars and their moths. But the tenth-of-a-milligram tag and its radar receiver unit have a range of only forty-five meters, and you can easily follow a monarch that far by sight.

Others wanted to know if I would fly an ultralight plane, "like the guy with the geese." No, I'd reply. I'm a low-tech kind of a guy. It will be me; my trusty butterfly net, Marsha; my old Honda, Powdermilk; boots; a little beer; some knowledge of what butterflies do and how to find them; and a strong dose of curiosity mixed with a passion to know where monarchs fly, and how.

"The idea that monarchs breeding east of the Rocky Mountains all go to Mexico, while those breeding west of the Rockies all go to the California coast, has become canon. Yet as a boy chasing alpine butterflies high in the Rockies, I saw monarchs crossing passes through the Continental Divide in both directions! So I've always been uncomfortable with the received wisdom that East and West shall never meet in the person of monarchs."

THE MONARCH, *DANAUS PLEXIPPUS* (LINNAEUS), also known as the milkweed butterfly and the wanderer, conducts probably the longest and certainly the most spectacular mass movement of any insect. Many butterflies engage in mass movements to expand their range or relieve pressure on their habitat. But in North America only the monarch regularly shifts north in the spring, south in the fall, en masse, like birds.

Monarchs belong to a subfamily, the Danainae, all of whose members are tropical or subtropical and none of which has acquired the ability to overwinter north of the line of regular frosts. Yet their host plants, milkweeds (*Asclepias* species), occur abundantly in North America. To take advantage of that resource, monarchs have evolved their two-way flow, northward or inland in the spring and southward or coastward in the fall. This essential fact seems well established. But for all their popularity and widespread lore, monarchs are far from well known. Large questions remain. What does a monarch's travel itinerary actually look like? It is certainly no straight line, as the vectors on monarch migration maps tend to suggest.

For at least a century, wanderers have been observed spending winters along the California coast—not in particularly warm places but in clumps and bands of trees in the fog belt. Only since 1975 has it been generally known outside of Michoacán that the bulk of the North American monarchs overwinter in Mexico—not in Veracruz or Cancún or any other hot resort where gringos and warblers might go to winter, but on a few high, cool, forested slopes of the transvolcanic ranges west of Mexico City. This long-distance shift of a whole continental population of insects comprises one of the most astonishing migrations on earth, and the greatest butterfly gathering. Yet it takes place in a profound cloud of mystery.

Three questions stand out for me. First, how do the monarchs physically do it, this migration over thousands of miles of North America; what are the lives of the migrants like? Second, do they actually navigate or just ride the wind? And third, why do some monarchs end up in Mexico and others in California, and what determines which parts of the breeding population will reach either destination?

Many aspects of the first riddle may be approachable only at the genetic, cellular, biochemical, and experimental-behavioral levels. But as for how they comport themselves day by day during their long journeys, surely much would be discernible by a careful watcher on the ground.

Transformations

WITH A CONTINENT TO COVER, there is no time among the monarchs for the elaborate courtship many butterflies perform. The forest colony in evacuation from their overwintering grounds resembles an orgy. Spotting a darker-veined, russet female, a paler male pounces in midair. He attempts to ride, to skyjack the usually smaller female, often taking her to the ground. There, among the pine needles and duff, he forces her onto her back if he can, and immediately copulates with her. Then he carries her into a tree in a postnuptial flight.

The eggs that eventually result—fluted golden ovals—darken in a few days, then give forth comma-sized caterpillars. These consume milkweed flesh until they burst their skins, five times. As they gnaw the host plant, they spill its latex, which will embitter their own tissues. In less than a month the caterpillars have grown as large as a child's little finger. After the fifth molt comes the jade jewelbox, the gold-nippled smooth green chrysalis. From this inch-long pellet will come a butterfly whose wings span 3 or 4 inches. Once they break free of their confining chrysalides, then dry in full turgor, they are capable of rising, soaring, and gliding better than any kite.—*Robert Michael Pyle, in* Chasing Monarchs: Migrating with the Butterflies of Passage

Left, from top: **Newly hatched monarch caterpillar with egg casing; two caterpillars at the extremes of this stage of the life cycle; the caterpillar's skin splits a final time to reveal the chrysalis; the newly emerged butterfly.**

Right: **A mating flight; *inset*, the "jade jewelbox," the chrysalis.**

Left, from top: © 2000 E.R. Degginger/Animals Animals. © 2000 Bill Beatty/Animals Animals. © 2000 Jeff Foott/Bruce Coleman, Inc. © 2000 Jeff Foott/Bruce Coleman, Inc. *Right:* © 2000 Frans Lanting/Minden Pictures; *inset*, © 2000 Gavriel Jecan/Art Wolfe, Inc.

Many naturalists have contributed their observations to a collective picture of monarch behavior. But most of them watch the butterflies go by in the fall and come back in the spring. As far as I knew, no one had ever tried to follow them along the way.

As for navigation, the presence or absence of a sun compass in monarchs has been the subject of experimentation lately, and studies of their possible orientation by magnetic fields closely followed. Again, a watcher on the ground should be able to get a sense of how the migrants relate to topographical features and whether they seem to select their direction or allow the elements to direct their route.

The third puzzle, of origins and destinations, has been approached by dedicated folks tagging monarchs for more than half a century, ever since Professor Fred Urquhart, the dean of monarch studies, first began affixing sticky labels to their wings and letting them go in hopes they might be found again. Indeed, enough were found over the years—some low thousands out of a million or more tagged—to suggest that the eastern monarchs were pointing toward Mexico in their fall exodus. Eventually, in 1975, when Urquhart's associates located the winter clusters in Michoacán, this idea was borne out.

Western monarchs are far less abundant than the eastern, and far fewer have been tagged, especially outside of California. Because it was easy to collect and tag individuals from the wintering trees on the coast, Urquhart and his helpers transplanted California monarchs to other states and provinces to see what would happen. Transplants, or course, cannot demonstrate what monarchs of local origin would do. But because some of these made it back to the West Coast and were recovered there, the unwarranted assumption arose that all western monarchs migrate to the California shore.

Since then, largely due to Urquhart's published maps of tag recoveries, the idea that monarchs breeding east of the Rocky Mountains all go to Mexico, while those breeding west of the Rockies all go to the California coast, has become canon. This belief has been perpetuated by most people who have written about monarchs, and most published maps show the Rockies as a monolithic butterfly barrier. Yet as a boy chasing alpine butterflies high in the Rockies each summer, I saw monarchs crossing passes—Loveland, Corona—through the Continental Divide in both directions! So I've always been uncomfortable with the received wisdom that East and West shall never meet in the person of monarchs. After making repeated ads, queries, and interviews, and searching the literature, Web, and grapevine, I unearthed only two sources of wild, indigenous monarchs tagged outside California and recovered on the West Coast, both from Boise. Also two monarchs from the same site in Idaho were recovered far to the southeast in Utah. A basic assumption of North American natural history thus seemed based on thin evidence indeed.

In spite of all the watchers and taggers over the years, we still lack a daily flight plan for moving monarchs. Monarch Watch, of Lawrence, Kansas, and Journey North use the Internet to connect classrooms and field observers and plot arrivals at the speed of light, mostly from the Great Plains eastward. The Monarch Program, in San Diego, monitors activity chiefly along the California coast. A barren of ignorance lies in between. By physically trailing the beasts through that barren, migrating with the monarch, day by day, north to south, I hoped to shed a few lumens of light on the several mysteries of the monarchs.

Robert Michael Pyle, who is founder of the Xerces Society and chair of its Monarch Project, is the author of twelve books, including a number on butterflies; he wrote the Audubon Society Field Guide to North American Butterflies *(Knopf, 1981) and, with Brian Boyd and Dmitri Nabokov, edited and annotated* Nabokov's Butterflies *(Beacon Press, 1999).*

This article is adapted, with the permission of the publisher, from one of Dr. Pyle's most recent books, Chasing Monarchs: Migrating with the Butterflies of Passage *(Houghton Mifflin, 1999), a lyrical and scientific account of his 9,500-mile odyssey, following monarchs one at a time from Canada to Mexico and along the California coast. The book is available in the Pavilion of Wings store.*

Pavilion of Wings

LIKE THE MONARCH BUTTERFLIES that return every year to groves on California's coast, the Pavilion of Wings—once again presented by HomeBase—is returning to the Natural History Museum's south lawn. Last summer, the pavilion was one of the museum's most popular attractions, and it is an important educational venue as well. The enclosed garden exhibit brimming with live butterflies offers visitors an experience unlike any other—the chance not just to observe but to interact with exotic animals.

The Pavilion of Wings is what museum educators call an "immersion exhibit"; it lets us feel as though we are entering the butterflies' world, joining them in their garden as they flit about on their silent errands. The ultimate alarmists, butterflies in the wild typically take flight and disappear at the first sign of danger. However, in the Pavilion of Wings, the butterflies remain close to the visitor. In some cases, "close" means very close, and you may be used as a convenient landing platform. Many pavilion visitors will never forget the thrill of having butterflies alight unbidden on their shoulders or arms.

Insects evoke feelings of unease and discomfort in many people. Although all but a few species are not harmful to human beings, most of us would sooner reach for the can of Raid® than let any leggy creature continue purposefully across the kitchen floor. But butterflies and moths, while having the same number of legs as the humble cockroach, are admired and even adored by many people. Gardeners want them to lend a little class to their patio plants, teachers want them in their classrooms to teach about life cycles, and other folks want mounted specimens to brighten up their walls.

© 1999 Olivia R. Chami

When 6-year-old Brenton Bader stood still for a moment in the Pavilion of Wings last summer, a Malachite butterfly came in for a landing.

The Pavilion of Wings allows the staff of the Natural History Museum to capitalize on these attitudes and to use butterflies and moths to teach about a variety of insect adaptations and behaviors and about their importance in the natural world. With butterflies as a model, we can teach just about any lesson in biology, from a simple concept like camouflage coloration to a complex one, such as insect evolution.

The Pavilion of Wings exhibit is complemented by free events for families and special weekend programs (as well as the year-round displays in the museum's Insect Zoo). But the most significant on-going element of the education program in the pavilion is the staff, the gallery interpreters, who are once again ready to engage the public.

Because butterfly and moth wings are easily damaged if the insect is handled, the gallery interpreters protect the pavilion's inhabitants from their adoring fans. The rules are simple: if a butterfly chooses your head as a good place to rest, then you may let it be. But if a butterfly is obviously enjoying a meal at a flower or a piece of fruit, then you may not get "up close and personal" by clamping its tiny body in your fist.

The gallery interpreters' first priority, however, is to answer visitors' questions, giving the name of a particular butterfly, for example, or explaining why those two butterflies appear to be "stuck together." These well-trained natural history enthusiasts are adept at taking advantage of the teachable moment, to explain that the zebra wing butterfly has bold black and yellow colors to warn predators of its bitter taste or to point out a butterfly's coiled-up proboscis, through which it takes in liquids such as nectar. The interactions between pavilion staff and the visitors further the museum's mission of providing educational experiences in an informal naturalistic setting and enhancing our understanding of the natural world.

Sarah Thompson

As Outreach Programs Manager for the Natural History Museum, Sarah Thompson is responsible for enterprises that take the museum's educational resources into the community. The outreach efforts, which cover science and social studies topics and include the traveling Insect Zoo, are reaching more than 10,000 students each year. Ms. Thompson holds a bachelor of science degree in art history, with a minor in anthropology, and a masters degree in museum education from Bank Street College in New York City.

The Pavilion of Wings is open through September 3 from 10 a.m. to 5 p.m. daily, except on July 4, when the museum is closed for the Independence Day holiday. The exhibit is free for members, who need only present their membership cards at the pavilion's entrance to obtain admission.

The Pavilion of Wings is presented by

HomeBase
AMERICA'S BEST HOME IMPROVEMENT WAREHOUSE®

Savage Ancient Seas

LINDA SIMEONE
Paintings by
DOUGLAS HENDERSON

Two *Pteranodon longiceps* soar on air currents rising above a shoreline of the Western Interior Seaway, which covered the center of North America during the late Cretaceous Period.

EIGHTY-FIVE MILLION YEARS AGO, strange and spectacular creatures inhabited the heartland of America, swimming in a vast shallow sea that covered the center of the continent from the Arctic Circle to the Gulf of Mexico. These animals flourished for 25 million years, until a mass extinction at the end of the Cretaceous Period, when most of them disappeared.

Savage Ancient Seas, an exhibition opening on May 27 and on view through October 9, showcases the skeletons of some of the oddest of the residents of the prehistoric seaway. The pulsating underwater world of these organisms, most of which were swift and efficient carnivores, has been recreated in a new special exhibition gallery on the Exposition Park museum's first floor; visitors can walk through an ancient marine environment there and experience its denizens at eye level or by looking up (some of the largest specimens will "swim" above, suspended from the ceiling).

J.D. Stewart, the Natural History Museum's expert in fossil fishes, is curating the exhibition for the museum. "It is particularly exciting to work on this project," he said, "because many of these prehistoric life forms have never before been on display in the Los Angeles area."

Although these animals coexisted with dinosaurs—and many of them resembled their land-based dinosaurian contemporaries—the residents of the ancient seaway were not dinosaurs themselves but rather fishes or reptiles and birds of separate lineages:

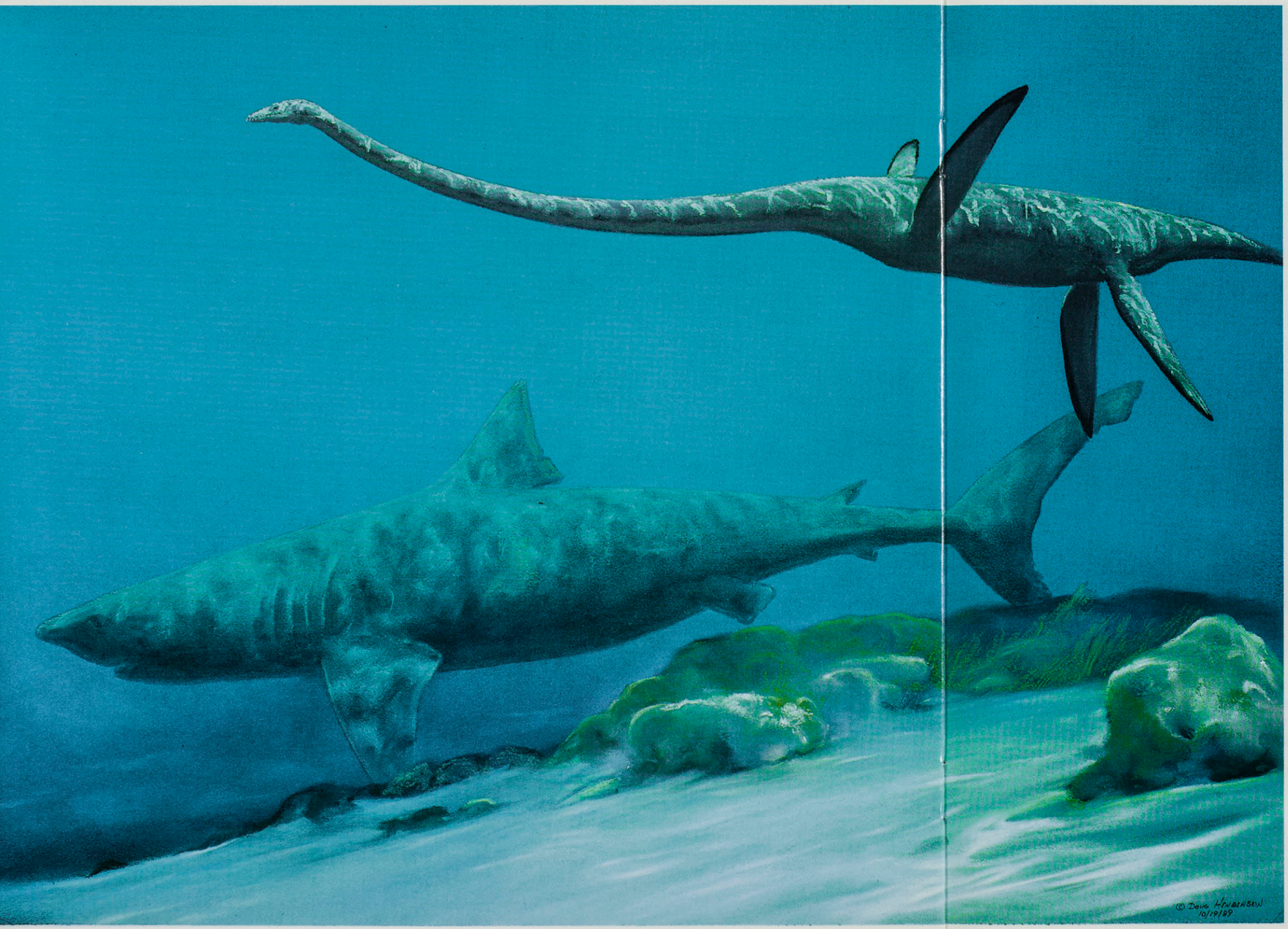
- At 45 feet long, the exhibit's *Tylosaurus proriger* is one of the largest mosasaur skeletons ever assembled. The reptile is shown capturing *Clidastes propython,* a smaller mosasaur, between its huge jaws.
- *Elasmosaurus platyurus,* a 42-foot-long plesiosaur, had a long, gracefully curving neck.
- *Xiphactinus audax* was the largest carnivorous bony fish of its day. The 12-foot-long specimen in the exhibition features the gaping mouth and prominent sharp teeth typical of the species.
- A school of five *Pachyrhizodus caninus* are shown being pursued by the *Xiphactinus audax.* The 6-foot-long fish from which these specimens were cast had malformed, irregular teeth, caused by an unknown disease or infection, and the individual is smaller than average for the species—it may not have been able to hunt and eat well because of its faulty dentition.
- A skeleton of the enormous sea turtle, *Archelon ischyros,* was found essentially intact in South Dakota. The specimen, at 15 feet in length, is the largest turtle of any kind ever found on land or in the sea and is 30 percent larger than most other examples of its species.
- *Hesperornis regalis* was a giant marine bird that resembled but was not related to the modern-day loon. The species had vestigial wings and big webbed feet that gave it strong forward propulsion and superior maneuverability.
- Four specimens of *Pteranodon sternbergi,* a toothless flying reptile, hover or perch in the gallery. In addition to thick membranous wings, the species had a layer of hair covering its body and a scooplike beak similar to that of a pelican. One of the exhibit's specimens has a wingspan of 11 feet.

"Pleisosaurs and mosasaurs lived in the coastal waters of North America, which covered most of California at the close of the Cretaceous Period," said Dr. Stewart, "and so the animals in our exhibit's ancient sea are much more representative than dinosaurs of what was living in California 65 million years ago."

MOST OF THE SPECIMENS in *Savage Ancient Seas* were collected and prepared by Michael Triebold, whose company, Triebold Paleontology, Inc., of Woodland Park, Colorado, specializes in working with natural history museums on casts of prehistoric creatures. Dr. Stewart and other museum paleontologists have advised Mr. Triebold on his castings and reconstructions, and the Natural History Museum has supplemented the Triebold material with treasures from our own collections, including:

- An 80-million-year-old giant squid, one of only a few complete specimens in the world.
- Fossil clams measuring almost 4 feet across.

A young pleisosaur, *Elasmosaurus platyurus*, swims rather close to an 18-foot-long shark, *Cretoxyrhina mantelli*.



- A specimen of *Protosphyraena*, a fish with a long bill like a marlin's and sharp teeth like those of a barracuda.
- *Squalicorax*, an 85-million-year-old, 7-foot-long shark.
- A variety of ammonites, many retaining their original mother of pearl, with its polished opalescence.
- The head of an 85-million-year-old coelacanth, which belongs to a family of fish thought long extinct until living representatives were discovered off the coast of South Africa in 1938.
- The head and trunk of *Xiphactinus audax*. This specimen, collected on a Natural History Museum expedition to Kansas in 1998, was the first ever found with remains of another fish, *Pachyrhizodus caninus*, in its body.

Although all but one of the Natural History Museum's specimens in the exhibit are actual fossils, most of the Triebold materials are cast reproductions of original skeletons now in the collections of major natural history museums in North America and Europe. In some circumstances, casts are the best—or only—means of displaying a fossil. First of all, when only part of a skeleton is recovered, casting makes it possible to fill in the missing bones and complete a specimen. In addition, fossilized remains are sometimes brittle and not likely to survive the rigors of being in a traveling exhibition. And rare specimens like the turtle *Archelon* are sometimes simply too precious to go on the road.

Dr. Stewart notes that crushed skeletons are the rule with marine fossils, especially those preserved in chalk and shale, which composed the floor of North America's shallow Cretaceous sea. "This type of matrix tends to compress more completely than other fossil-preserving sediments, such as sandstone. When we find specimens in these fine-grained rocks, they usually resemble road kill." Most of the specimens in the *Savage Ancient Seas* exhibition were found flattened beneath tons of chalk sediment, and the casting of reconstructions was the only way to give three-dimensional realism to the remains.

POPULATIONS OF THE SHALLOW SEA'S CREATURES may have been in decline toward the end of the Cretaceous Period because of a variety of environmental factors. But most succumbed to death and extinction around 64.5 million years ago, when an asteroid struck the earth near Mexico's Yucatán Peninsula. The asteroid's impact marks what is known as the K-T boundary, the interval of time between the end of the Cretaceous Period and the beginning of the Tertiary.

Although the entire story may never be known, some scientists believe that the tons of dirt and debris jettisoned from the impact site by the collision would have caused enormous environmental havoc. Such an event would have greatly reduced the amount of sunlight reaching the planet, and this in turn eventually would have lowered temperatures globally; the tsunami waves, volcanic activity, rampant wildfires, severe storms, and high winds that followed the impact would have been drastic enough to decimate and devastate many species living then.

Savage Ancient Seas traces the fate of some of the North American seaway's life forms. The pleisosaur *Elasmosaurus*, the fishes *Xiphactinus*, *Pachyrhizodus*, and *Protosphyraena*, and the flying *Pteranodon* had all disappeared by the beginning of the Tertiary. But the squid and sharks survived to a degree: these have modern if somewhat distantly related descendants. *Archelon* has a distant living relative in the modern sea turtle, and today's komodo dragon belongs to the same group of lizards as the mosasaurs. Only the coelacanth and a few other species have endured since Cretaceous times essentially unchanged.

The inland sea has long since receded, and most of its inhabitants vanished. But through painstaking scientific restoration and exhibit wizardry, this remarkable world comes to life again this summer, providing us a rare glimpse of the stunning creatures that once reigned over much of North America.

Linda Simeone is adult programs coordinator in the Education Division. A Summa Cum Laude journalism graduate of San Diego State University, Ms. Simeone previously worked in the educa-

Two mosasaurs, a *Xiphactinus audax*, and several ammonites swim near shore, where they are somewhat protected from being attacked by large predators such as the giant mosasaur *Tylosaurus proriger*.

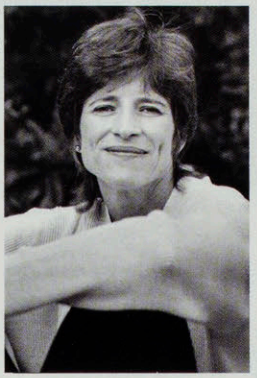
tion department of the San Diego Natural History Museum, in charge of marketing public education programs.

As a member of the Natural History Museum's committees for the design and production of Savage Ancient Seas, *Ms. Simeone traveled to Fargo, North Dakota, last November to preview the exhibit and was captivated by the stunning specimens as well as the stark beauty of the northern state. She is developing label copy and a gallery guide for the exhibit with Jim Kisiel, who is the museum's Earthmobile/Seamobile coordinator.*

Dr. J. D. Stewart served as technical advisor for this article.

Museum on the Move

New Senior Vice-President for Advancement



ALAN ECHEVERRIA

James L. Powell has announced the appointment of Dyan Sublett as senior vice-president for advancement for the Natural History Museum. Ms. Sublett comes to the museum from Art Center College of Design, where she has been senior vice-president for institutional advancement, supervising the fund-raising, public relations, communications, and alumni relations programs for the college; as acting copresident, she also governed Art Center for a year.

Ms. Sublett's 15 years in the development profession include service as a senior development director at the University of California, Los Angeles, and as vice-president of the Sundance Institute in Utah. As director of development for Hampshire College in Massachusetts, she worked with Adele Simmons, who is now president of the MacArthur Foundation.

Ms. Sublett is active as a volunteer, serving on the boards of directors of Planned Parenthood Los Angeles and the Creede Repertory Theater in Colorado. She is a member of the Leadership Council of the National Network for Women and Philanthropy and has been honored for her work with the Council for the Advancement and Support of Education and the American Council on Education. She holds an undergraduate degree from Indiana University and a master of fine arts from the University of Massachusetts. Ms. Sublett is also a poet; her work has been published in a number of literary journals and was included in *Keener Sounds* (University of Georgia Press), an anthology of outstanding American poetry of 1950 to 1990.

An Out-of-this-World Exhibition

An extremely rare meteorite is on display in the Exposition Park museum. Although thousands of meteorites have been discovered throughout the world, only fourteen of these are of Martian origin. The exhibited fist-sized piece of cosmic debris, which has been named the Los Angeles Meteorite, is the first from Mars known to have landed in the United States.

The 1.3 billion-year-old rock and two other meteorites found in Los Angeles County are part of a new temporary exhibition that provides an introduction to these chunks of extraterrestrial material. In addition to featuring examples of the major types of meteorites, the show includes an array of "meteor-wrongs"—items that people have mistaken for meteorites—and tips on how to identify the real thing.

The Los Angeles Meteorite was discovered in two pieces in the Mojave Desert about 20 years ago by Mr. Robert S. Verish of Sunland, who added the "peculiar volcanic rocks" to his collection and forgot about them. In October 1999, he rediscovered the oddities and thought that they might be meteorites, a suspicion that was subsequently confirmed by scientists at UCLA.

"We are grateful to Mr. Verish and to UCLA for help in making this exhibition a reality," said Dr. Anthony Kampf, curator of mineral sciences for the museum, who created the concept for the show with Dorothy Ettensohn, mineral sciences collections manager; Dr. Kampf has also established a page on meteorites for the museum's Web site (www.nhm.org/lacmnh/departments/research/mineralogy/meteorites.htm).

The exhibit remains on view in the Hall of Gems and Minerals through August 13.

Baldwin Hills Survey

Rising to an unassuming 511 feet above the Los Angeles Basin, the Baldwin Hills are nevertheless intriguing as an "island" of natural habitat surrounded by heavily urbanized sections of the City of Los Angeles, Culver City, and Inglewood. The hills are now a mixture of natural open space, oil extraction operations, residential neighborhoods, and recreational park land. But an aerial photograph taken in the mid-1940s *(below),* when a set of tract homes at the base of the hills was just completed, shows the extent to which the region was once dominated by coastal sage scrub, a beleaguered plant association unique to southern California.

The Natural History Museum has entered into a contract with the nonprofit Community Conservancy International to study the past and present plant and animal life of the Baldwin Hills, which are located just 3 miles west of our Exposition Park building. One of the study's goals is to characterize the important remaining natural habitats of these hills and to identify the less pristine areas there that have a potential to be restored. We also seek to understand the relationship between the biota of Baldwin Hills and

BALDWIN HILLS ◆ UCLA AIR PHOTO LIBRARY

Exhibitions

EXPOSITION PARK MUSEUM

The Gem Artists of North America

May 4 through July 30, Hall of Gems and Minerals

Members of the Gem Artists of North America are among the most accomplished lapidary artists in the world. The pieces included in this exhibition represent some of the finest, most innovative, and most beautiful gemstone artworks ever presented on public display.

© 1999 Harold and Erica Van Pelt

The Bahia, a 54-inch-tall sculpture of rutilated quartz, by Glenn Lehrer *(right)* and Lawrence Stoller. Loan from the artists.

Pavilion of Wings: A Live Butterfly Experience

May 6 through September 4, South Lawn

While going about their business in the museum's butterfly garden, hundreds of live, free-flying butterflies flaunt their beauty for visitors.

Presented by HomeBase

Savage Ancient Seas

May 27 through October 9, first floor special exhibits gallery

A walk through an underwater world of 70 million years ago, in late Cretaceous times, when huge and mostly carnivorous reptiles and fishes dominated a seaway that covered the center of the North American continent.

El Nuevo Mundo: The Landscape of Latino Los Angeles

Continuing through July 16, Dart Gallery

Photographer and sociologist Camilo José Vergara's personal account of the profound changes that have occurred in Los Angeles as some neighborhoods have become increasingly Latino. **Made possible by** Union Bank of California

Late 20th Century Zuni Fetishes

Continuing, First Floor Stair Landing

More than 100 of the 3,951 Zuni fetishes donated to the museum by Boyd W. and Mary Evelyn Walker.

AT THE PAGE MUSEUM . . .

Mammoths: Wild and Woolly!

Continuing through September 17

A celebration of the proboscideans that were native to North America during late Pleistocene times, including the enormous Columbian mammoth whose remains are found among 10,000- to 40,000-year-old Rancho La Brea fossils.

that of the remainder of the Ballona Creek watershed. And, although connections between wildlife populations of the study area and those in the Ballona Wetlands to the west and the Santa Monica Mountains to the north have long been severed, a creative design of modern habitat linkages is within the realm of possibility and an idea that we will explore.

During 2000, our team—which includes curatorial staff members David Janiger, Kent Beaman, Kathy Molina, and myself and others—will survey the vertebrates, insects, and plants of the Baldwin Hills; field work as well as examination of museum specimens, published reports, and historical documents will tell us about the kinds of animals and plants there now as well as about the residents of the past. The Baldwin Hills study also provides a chance for a unique partnership between two of the Natural History Museum's major operations. The Education Division's "Earth Odyssey" is a pilot outreach program about ecology in which local students will collect data on plants and animals in the Baldwin Hills. The work of the young scientists, and of the museum educators supervising them, will augment the Research and Collection Branch's survey efforts.

Even as we begin our work, many interesting ecological questions arise. For example, the coastal sage scrub on the Baldwin Hills supports remnant populations of California Quail, Cactus Wren, California Thrasher, and Rufous-crowned Sparrow, but these species are absent from the surrounding lowland urban areas. Previous studies of islands of scrub habitats in California's urban areas suggest that local populations will become extinct if the scrub patches become too fragmented or if predator populations become imbalanced. Many of the mammal, reptile, and amphibian species on the Baldwin Hills are probably experiencing adverse effects of isolation that are similar to or even greater than those of the birds. The Baldwin Hills project gives us the opportunity to investigate processes like these in the museum's own "back yard"; we hope to lay the ground work for reversing habitat declines in this rare expanse of open land within the massive urban landscape of the Los Angeles Basin.—*Kimball Garrett, Ornithology Collections Manager*

New Donor Programs Director

At the end of 1999, Paige Simmons joined the staff of the Natural History Museum as director of annual donor programs. In this newly created position, she will have responsibility for the Membership Office, Fellows program, Corporate Partners, and the museum's annual fund-raising gala, the Dinosaur Ball.

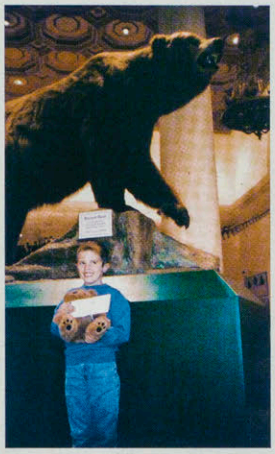
After receiving a bachelor's degree in business and interior architecture from Howard University, Ms. Simmons started her career as facilities management intern for the Smithsonian Institution in Washington, D.C. In 1994, she moved to Los Angeles, where she worked as director of marketing for *Making It!*, a production of KTLA-TV Channel 5.

In her new position at the museum, Ms. Simmons plans to use her marketing skills and experience in the entertainment business to add value to the membership and donor programs.

Oso's Travels

Chaz Stark of Edwards, California, is the winner of the Museum Stores' "Oso Wants to Travel" contest, in which one hundred children who had been given Teddy Bears competed to see whose toy could travel the most miles over the winter 1999 holidays.

Six-year-old Chaz asked a family friend, Technical Sergeant Brian Bridgeman, to help him compile his bear's travel diary, and the sergeant, who is stationed



Left: **Chaz Stark accepting his prize, a $100 gift certificate in the Museum Stores. Chaz's contest-winning Oso bear *(right)* dropped in at Osan Air Base in South Korea, where Chaz's dad is stationed.**

at Edwards Air Force Base and assigned to a special Air Force Plane called "Speckled Trout," took Chaz's Oso flying with him. In the 7 weeks of the contest, Oso visited Maryland, Alaska, Saudi Arabia, Australia, South Korea, and Singapore, logging in a grand total of 43,022 1/2 miles.

Admission to the Petersen Museum

As of April 2000, the Petersen Automotive Museum is being operated and governed by the Petersen Automotive Museum Foundation, a new tax-exempt nonprofit organization. The Petersen Museum has become an independent museum but keeps its dedication to the interpretive study of the automobile and its influence on the culture of southern California.

Although the Petersen is no longer officially a part of the Natural History Museum family, we are able to offer our members continued admission to the automotive museum through a reciprocal membership program.

If you are a member of the Natural History Museum who joined prior to April 1, 2000, you are now entitled to free admission to the Petersen Museum, and this benefit will continue—regardless of what level of membership you hold—until your current year's membership expires. When your membership expires, you may continue to receive free admission and discounts at the Petersen by renewing your Natural History Museum membership at the Patron, Naturalist, or Explorer levels ($150 per year and above). New members joining after April 1, 2000, will also receive reciprocal membership privileges for the Petersen if they join at the Patron, Naturalist, or Explorer levels.

The Natural History Museum continues to bring you the best of natural sciences and history. All Natural History Museum members are entitled to free admission to:

- The Natural History Museum in Exposition Park
- The George C. Page Museum in Hancock Park
- The William S. Hart Museum in Hart Park in Newhall.

If you have any questions, please call the Membership Office at 213/763-3426.—*Paige Simmons, Director of Annual Donor Programs*

Los Angeles County Supervisors Yvonne Brathwaite Burke and Don Knabe *(second from right)* with Dr. James L. Powell, museum president and director *(right)*, and Dick Poladian, who is office managing partner for Arthur Andersen LLP and currently chair of the Los Angeles Area Chamber of Commerce.

Supervisors Burke, Knabe, and Michael Antonovich and Mr. Poladian kicked off a week of celebrations of the 150th birthday of Los Angeles County at a reception at the Natural History Museum in February, where each was presented with a portfolio of prints from the museum's *Pride and Honor* exhibition.

BOARD OF TRUSTEES
1999–2000

Joseph C. Berenato
Walter Berkman
Mrs. Jane Boeckmann*
Franklin Otis Booth, Jr.*
Lynn W. Brengel
Neal H. Brockmeyer
Judge Wm. Matthew Byrne, Jr.†
Richard Call, M.D.†
Otis Chandler†
H. Frederick Christie, *Chairman, Board of Trustees*
David Comsky*
Mark Wayne Dundee*
Leonard R. Fuller
Albert B. Glickman†
Paul G. Haaga, Jr.
John J. Harris
Ed N. Harrison†
Mrs. Betty O. Irvin*
Gary N. Jacobs
Sarah Meeker Jensen
Carole Sumner Krechman*
Roger Kozberg
Mrs. Kenneth Leventhal
Patricia Lombard
Angus W. McBain
Bruce A. Meyer
Stephen R. Onderdonk
George C. Page†
Ki Suh Park*
Robert E. Petersen
Julio Ramirez, Jr.*
Mrs. Thomas Reddin
William P. Richards, Jr.
Sheldon Richman
Richard K. Roeder
Edward P. Roski, Jr.
Wesley Ru*
Dolores Samuelian*
Gregory F. Sanford
Ching Sang*
Richard C. Seaver
Kevin W. Sharer, *President, Board of Trustees*
Marilyn F. Solomon*
John A. Sussman
Mae Sue Talley†
William H. Tilley
Richard S. Volpert,* *President, Board of Governors*
Timothy W. Washburn
John G. Wigmore
Joan D. Wrede

ALLIANCE BOARD OF DIRECTORS
1999–2000

Walter S. Berkman, *President*
Lois Bock
Edwina Carnahan**
Donn B. Conner
Myrna L. Dubin**
Richard C. Dunsay
Diane Jeanne Dykema
J. Shelton Ellis, Jr.††
Mrs. Robert Feinerman
Barry W. Gernstein
Joan C. Grasty
Pierre P. Habis
Melvin S. Hindin
Diana Jacobs††
Frank Jansen
Marshall I. Kass
David Kriesel
Tani Sackler Krouse
Mary G. Lane
Jill Laverty
Mrs. Kenneth Leventhal
Kristin Olson Lieberman
Michael K. Lindsey
Patricia Lombard
Alan G. Lowy
Mrs. Maurice Machris
Jennifer McIntosh
Mrs. Alden McKelvey
Lois Mudrick**
A. F. Osterloh III
Robert T. Patterson
Judy Perlstein
Gregory D. Phillips
Mrs. Thomas Reddin
Mrs. Charles Rinsch
James S. Royer
Robert Sloves
Mrs. Irving Stone††
Robert Swartz, *Vice-President*
Ms. Sylvia Thayer
Joan D. Wrede
Lorraine P. Young

*Governor
** Ex Officio
† Trustee Emeritus
†† Honorary Director

As of April 1, 2000

NATURAL HISTORY MUSEUM
OF LOS ANGELES COUNTY

Natural History Museum of Los Angeles County
Exposition Park, Los Angeles, California 90007

The Natural History Museum exists to advance knowledge and to enable people of all ages, backgrounds, and interests to understand and appreciate their natural and cultural heritage. The museum assembles, conserves, interprets, and holds in trust collections of irreplaceable objects from nature and human history. These collections reveal the history of the Earth and the evolution and diversity of life and culture. They sustain programs of research, exhibits, education, and publication.

Natural History Museum of Los Angeles County
World Wide Web: http://www.nhm.org

◆ Natural History Museum, Exposition Park
900 Exposition Blvd., Los Angeles 90007
General information 213/763-DINO

◆ George C. Page Museum of the La Brea Tar Pits
5801 Wilshire Blvd., Hancock Park, Los Angeles 90036
General information 323/934-PAGE

◆ William S. Hart Museum
24151 San Fernando Road, Hart Park, Newhall 91321
General information 661/254-4584

◆ Produced by the Publications Office, Natural History Museum, 900 Exposition Boulevard, Los Angeles, CA 90007.◆ For membership information, visit the Membership Office at the Museum of Natural History in Exposition Park or call 213/763-3426.

◆ Copyright 2000 by the Los Angeles County Museum of Natural History Foundation. All rights reserved. Reproduction by any means in whole or in part without permission is prohibited.

◆ The article "Sky River" is adapted from *Chasing Monarchs: Migrating with the Butterflies of Passage* © 1999 by Robert Michael Pyle. Reprinted by permission of Houghton Mifflin Co. All rights reserved.

Museum President and Director
JAMES L. POWELL

Board of Supervisors, County of Los Angeles
GLORIA MOLINA, First District, *Chair*
YVONNE BRATHWAITE BURKE, Second District
ZEV YAROSLAVSKY, Third District
DON KNABE, Fourth District
MICHAEL D. ANTONOVICH, Fifth District

Chief Administrative Officer, County of Los Angeles
DAVID E. JANSSEN

Robin A. Simpson, Editor
K. Victoria Brown, Editorial Assistant and Illustration Researcher
Paige Simmons, Membership Editor
Special assistance from Linda Abraham, John Cahoon, John Crabtree-Ireland, Dan Danzig, Phil Goldwhite, Chris Hills, Kathy Molina, Trip Oldfield, Leland Paxton, Pat Reynolds, and Gina Ward.

Designed by Dana Levy, Perpetua Press
Printed on recycled paper by Castle Press

QUESTIONS? PLEASE CALL US!

MEMBERSHIP SERVICES	213/763-3426
VOLUNTEER INFORMATION	213/763-3341
ADVANCEMENT OFFICE	213/763-3307
SPECIAL EVENTS OFFICE	213/763-3221
MUSEUM STORES	
Explore Store	213/763-3336
Page Museum Shop	323/857-6300
MEMBERS' TRAVEL PROGRAM	213/763-3350
ADULT/CHILDREN'S PROGRAMS	213/763-3534
OUTREACH PROGRAMS	213/763-3344
MEMBERS' LOAN SERVICE	213/763-3345
SCHOOL TOUR RESERVATIONS	
Exposition Park Museum	213/763-3333
Page Museum	323/857-6305
Hart Museum	661/254-4584
DISCOVERY CENTER	213/763-3559
GEM AND MINERAL COUNCIL	213/763-3327
FRIENDS OF THE LIBRARY	213/763-3388
TTY NUMBER FOR THE HARD OF HEARING	213/763-3569

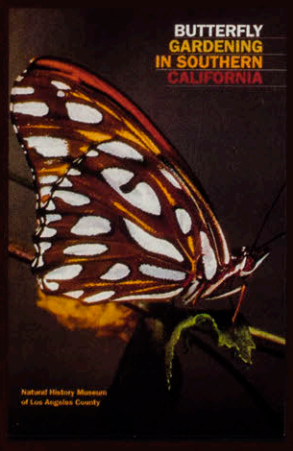
Notice for materials in alternate format. If you require *Terra* or other printed information about the museums in an alternate format, please contact the museums' Americans with Disabilities Act (ADA) Compliance Officer at 213/763-3417 (voice) or by calling that number via California Relay Service at 800/735-2929 (TTY).

BUTTERFLY GIFT SHOP

The Butterfly Pavilion Shop is stocked with enchanting gifts and educational materials, including books, videos, and CD-ROMs on butterflies and moths as well as posters, stationery, T-shirts, toys, and jewelry and craft items with a lepidopteran theme!

Casey Coleman's women's blouses and matching button covers are 100 percent cotton, machine-washable, and artfully decorated with butterflies in flight. Shirt, $69.95. Button covers, $17.95, set of four.

The Butterfly Alphabet Poster is a delightful new way to learn the alphabet as well as enjoy the variety of design and vibrant color in the realm of nature's crown jewels, the butterflies. 18 by 24 inch color poster, $8.



Butterfly Gardening in Southern California, the spring 1999 issue of TERRA, is a lavishly illustrated guide to forty species of butterflies that can be lured into our gardens and yards. 36 pages, 54 color illustrations, $4

Museum members receive a discount on purchases in the museum stores!
Explore Store/Exposition Park Museum: 213/763-3488
Tar Pits Store/Page Museum of the Tar Pits: 323/857-6300